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of Brazil and North America, in the years 1834, 1835, 1836 and 1837." By Sir James Everard Home, Bart., Commander Royal Navy, F.R.S., the Observations reduced by the Rev. George Fisher, M.A., F.R.S.

The observations for the dip were made with an instrument of modern construction, by Dollond. Each observation consisted of an equal number of readings of the position of the needle, before and after the inversion of its poles, and a mean of all the readings taken for the true dip. Tables are subjoined, containing the dips observed at each place; the times of making a hundred vibrations of five horizontal needles, and the mean horizontal forces computed therefrom; and likewise the results estimated in the direction of the dipping needle, compared with direct experiments made with the dipping needle itself.

A paper was also read in part, entitled "On Low Fogs and Stationary Clouds." By William Kelly, M.D. Communicated by Capt. Beaufort, R.N., F.R.S.

November 30, 1837.

At the Anniversary Meeting of the Royal Society, Francis Baily, Esq., Vice-President and Treasurer, in the Chair,

The Chairman read a letter from His Royal Highness the President, expressing his regret that he was unable to be present at the Meeting, in consequence of his continuing to suffer from his recent accident.

Mr. Davies Gilbert, as one of the Auditors of the Treasurer's accounts on the part of the Society, reported the balance in the Treasurer's hands at the present Audit was three hundred and thirty-seven pounds three shillings and eight pence.

The Thanks of the Society were voted to the Auditors for their trouble in auditing the Treasurer's Accounts.

The following Lists of the Fellows admitted, and of those deceased during the past year, were read:

Deceased: on the Home List.—His Majesty *The King*; James Henry Arnold, Esq.; Count Barbiano Bolgioiso; the Rev. Joseph Batten; Samuel D. Broughton, Esq.; Henry Thomas Colebrooke, Esq.; Earl Cowper; John Davidson, Esq.; Alexander Duncan, Esq.; the Earl of Egremont; Cypriano Ribeiro Freire; Lord Glenlyon; Sir Thomas Hammer, Bart.; George Hibbert, Esq.; Joseph Jekyll, Esq., M.A.; John Johnstone, M.D.; John Latham, M.D. (*Winchester*); the Marquess Malaspina de Sannazaro; Captain Z. Mudge, R.E.; the Rev. Robert Nixon, B.D.; Lewis Pinto de Souza Coutinho; the Rev. William Ritchie, LL.D.; the Rev. George Rowley, D.D.; Joseph Sabine, Esq.; Count de Salis; the Bishop of Salisbury; Sir John Soane, Knt.; Dr. Tiarks; Edward Turner, M.D.

On the Foreign List.—M. Adam Afzelius; M. Morichini.

Admitted: on the Home List.—William Ayrton, Esq.; Robert Bigsby, Esq.; Henry Boase, M.D.; John Burnet, Esq.; Benjamin

Bond Cabbell, Esq.; James Carson, M.D.; William Tierney Clark, Esq.; George Edward Frere, Esq.; Thomas Graham, Esq., M.A.; Charles Holland, M.D.; William Hopkins, Esq., M.A.; Robert Hunter, Esq.; James F. W. Johnston, Esq., M.A.; Richard Partridge, Esq.; Joseph Ellison Portlock, Esq.; John Urpath Ras-trick, Esq.; John Forbes Royle, M.D.; Frederic C. Skey, Esq.; John F. Smith, Esq.; Samuel Solly, Esq.; the Rev. William Wal-ton; J. R. Wellsted, Esq.; Richard Westmacott, Esq.; William Archibald Armstrong White, Esq.; William Page Wood, Esq.

On the Foreign List.—M. Becquerel; Prof. Ehrenberg; Ad-miral von Krusenstern; Chevalier Mirbel.

The following Address of His Royal Highness the President to the present Meeting, was read from the Chair by the Chairman.

GENTLEMEN,

WHEN I last had the honour of addressing you from this Chair, I ventured to express a hope that the happy restoration of my sight, and the continued possession of health, would have enabled me to discharge, with becoming regularity, the duties of President of this Society during those portions of the year in which I am generally resident in London: the fulfilment, however, of that hope was un-happily frustrated by a long and dangerous illness, which confined me for several months to my apartments and from the effects of which I have hardly yet entirely recovered. I trust, Gentlemen, you will pardon me if I look forward with brighter hopes to the prospects of another year; and if I hesitate to regard the unhappy experience of that which is past as a premonition of the fate which awaits me in those which are to come; if such were my assurance or reasonable fear, I should acquiesce in the duty and propriety of at once retiring from this Chair and of no longer soliciting the re-newal of an honour which I have enjoyed for so many years; but if it should be the pleasure of that good Providence, whose chastise-ments and whose mercies I have so often before experienced, to dis-able me from presiding over this Society in such a manner as might be considered necessary for the protection and maintenance of its just interests and dignity, I should bow with humble resignation to the expression of His will, and resign into other hands the discharge of those duties for which I should feel myself no longer qualified.

Since the last Annual Session of this Society we have lost, Gen-tlemen, a most munificent patron and benefactor, by the demise of our late most gracious Sovereign, King William the Fourth, of whom it is difficult for me to speak in terms which do justice to my feelings. He was, indeed, not less distinguished by the exalted station which he filled, than by the warmth and sincerity of his affections as a husband, a brother, and a friend; by the undisguised frankness and truth of his character as a man; and as a monarch, by his patriotic zeal to increase the efficiency and secure the permanence of the great institutions of his country and to extend to all classes of his subjects the blessings of peace and knowledge and the protection

of just and equal laws. I would gladly enlarge, if the time or the occasion would permit me to do so, upon these and many other virtues in the character of one who was so closely connected with me by the ties of relationship and of duty ; but I am quite sure that I should fail in the expression both of your sentiments and my own, if I did not acknowledge, in becoming terms of respect and gratitude, the especial patronage and protection which he extended to the Royal Society, by the renewed grant of the two Annual Medals which had been instituted by his royal brother and predecessor, and by the enactment of such statutes for their distribution as appeared to him best calculated to stimulate the exertions of philosophers, and to associate for ever the results of their labours with the publication of the Transactions of the Royal Society.

The Council availed themselves of the earliest opportunity which the resumption of their meetings allowed, to present, in the name of the Fellows of the Royal Society, the homage of their loyalty and devotion to the person and throne of the illustrious Princess who now wields the sceptre of this great empire ; and they ventured at the same time to express a hope that Her Majesty would be graciously pleased, in conformity with the practice of her predecessors, to sign her royal name in our Register as Patroness of our Society, and that she would likewise continue to us the annual grant of the two Medals which had been made by King George the Fourth and King William the Fourth.

This Address has been presented to Her Majesty, who has been graciously pleased to signify to me, through the Secretary of State, that she is most sensible of the loyalty and attachment expressed in it, and that she cordially joins in the wish of the Royal Society that her reign may be distinguished by the triumphs of the arts of peace and by the general diffusion and advancement of religion and knowledge amongst all classes of her subjects. Her Majesty was further graciously pleased to intimate that she would have great satisfaction in becoming the Patroness of the Royal Society, and that she would annually place at their disposal two Gold Medals, and would continue to extend to them the same protection and patronage which they had received from her royal predecessors.

I feel proud, Gentlemen, in being able to communicate to you these gracious assurances of support and protection from our Patroness and Queen, which are well calculated to confirm, though they cannot increase, the loyal and devoted attachment which we feel to her person ; and I trust that I shall be able, at no distant period, to announce to you that Her Majesty has signed her royal name in our Register as Patroness of the Royal Society.

I now proceed to notice some of the more important events connected with the administration of the Royal Society during the last year.

One of the Royal Medals has been adjudged to Mr. Whewell for his very valuable series of researches on the tides, which have been published in our Transactions, chiefly during the last three years. I must refer you, Gentlemen, for a statement of the grounds upon

which this decision has been founded to the more detailed reports of the Council, which will be read to you by your Secretary Dr. Roget; but I gladly avail myself of this opportunity of expressing my respect for the great talents and varied attainments of the distinguished philosopher upon whom this mark of honour has been conferred. If I regard him as occupied with the highest and most important practical duties connected with our system of academical education, and in providing and arranging the materials by which it is conducted, or the principles upon which it should be based, he will be found in the foremost rank of those whose labours do not deserve the less honour because they commonly absorb the entire time and attention of those who are engaged in them, and thus close up the avenue to those distinctions which are almost exclusively confined to great discoveries in science, or to important productions in literature. When I read his essays on the architecture of the middle ages, on subjects of general literature, or on moral and metaphysical philosophy, exhibiting powers of mind so various in their application and so refined and cultivated in their character, I feel inclined to forget the profound historian of science in the accomplished man of letters, or the learned amateur of art; but it is in his last and highest vocation, whilst tracing the causes which have advanced or checked the progress of the inductive sciences from the first dawn of philosophy in Greece to their mature development in the nineteenth century, or in pointing out the marks of design of an all-wise and all-powerful Providence in the greatest of those works and operations of nature which our senses or our knowledge can comprehend or explain, that I recognise the productions of one of those superior minds which are accustomed to exercise a powerful and lasting influence upon the intellectual character and speculations of the age in which they flourish.

It is now three years since the Royal Medal was adjudged to Mr. Lubbock for his *Researches on the Tides*; and the Council have availed themselves of the first opportunity which was presented by the recurrence of the cycle of the subjects, which are successively entitled to the Royal Medals, to make a similar award to his colleague and fellow-labourer in this very interesting and important series of investigations. It is not for me to attempt to balance the relative claims and merits, in connection with this subject, of these two very eminent philosophers; it is quite sufficient to remark that the first who ventured to approach this difficult and long-neglected inquiry was the first also who was selected for honour; but I have long noticed with equal pride and satisfaction the perfect harmony with which they have carried on their co-ordinate labours, apparently indifferent to every object but the attainment of truth, and altogether superior to those jealousies which too frequently present themselves amongst rival and cotemporaneous labourers in the same departments of science.

I regret to observe that the second Royal Medal for the present year has not been awarded, and that it has consequently lapsed to the Executors of his late Majesty. It was proposed that it should be

given to the best Memoir presented to the Royal Society between the years 1834 and 1837, containing "Contributions towards a System of Geological Chronology, founded upon an examination of Fossil Remains and their attendant Phænomena;" a subject of the greatest interest, and also of the greatest delicacy, from its connexion with those agitating topics which the speculations of philosophers are compelled to approach, though they may not always venture to decide. I should have rejoiced to have seen in the Transactions of the Royal Society a record of the opinions of a Buckland or a Sedgwick upon a theme which is so worthy of the application of their highest powers; and I trust that, though its announcement as a Prize Question has failed to secure, within the prescribed period, the accomplishment of the object proposed by it, it will still have done some service to the cause of science by exciting the attention of geologists in such a manner as may sooner or later lead to a definite and philosophical exposition of their views on a subject of so much importance.

Those who have attended to the Tidal researches of Mr. Whewell must be aware how much light has been thrown upon the character and course of the phænomena of the tides by the simultaneous observations, under his instructions, which were made in the month of June, 1834 and 1835, at nearly five hundred stations of the Coast Guard Service in Great Britain and Ireland, and simultaneously with the latter also at more than one hundred stations in America, Spain, Portugal, France, Belgium, Holland, Denmark, and Norway. These observations were undertaken by the authority or through the influence of the Government of this country, which likewise most promptly and liberally furnished the requisite funds and assistance for reducing the observations in such a manner as was requisite for deducing general conclusions from them, a labour much too extensive and costly to be undertaken by any single individual. I gladly seize this opportunity of bearing testimony, occupying as I do the highest scientific station in this country, to the readiness which the Lords of the Treasury and the Admiralty have shown on this and on every other occasion to forward scientific inquiries, and particularly such as are connected with the advancement of astronomy and navigation. They have granted funds for reducing and publishing the Planetary Observations at Greenwich, the valuable and extensive series of observations of the late Mr. Groombridge, for repeating upon an adequate scale the very important experiments of Mr. Cavendish, and for many other subjects of great scientific interest and value; and I feel satisfied that every application for assistance towards the accomplishment of any important object in science, will receive from them the most willing attention and support, if it comes before them with the recommendation and authority of those persons who are most competent to judge of its usefulness or necessity, and in such a form as may justify them in appealing to Parliament for its sanction of the requisite expenditure. I rejoice, Gentlemen, in such manifestations of the sympathy of the Government of this great

country for the progress of science, and I trust that its influence will be felt in the cordial union and co-operation of philosophers in planning and in executing those great systems of observations, whether simultaneous or not, which are still requisite to fill up some of those blank spaces which occupy so large a portion in the map of human knowledge.

In the course of last year the celebrated Baron de Humboldt addressed a letter to me, as President of the Royal Society, expressing a wish that Magnetical Observatories, upon a uniform plan, might be established in this country and its colonies, with a view of making simultaneous observations with those which are now making, or which are in progress to be made, in different parts of the continent of Europe and of Northern Asia. I felt it to be due to the illustrious author of this communication to make it generally known to the Fellows of the Royal Society, and to beg that a committee of the Council might be appointed to consider the best mode of carrying its recommendations into effect. A very elaborate Report was consequently made by the Astronomer Royal and Mr. Christie in November last, enumerating many important consequences which might result from such a system of observations, and pointing out a series of stations where they might most efficiently be made. I am happy to inform you, Gentlemen, that measures are in progress for the accomplishment of all these objects: a Magnetical Observatory, which was long contemplated and earnestly recommended by the Board of Visitors of the Royal Observatory, has been established at Greenwich, in a situation so remote from all other buildings as to be altogether free even from the suspicion of external disturbances. The Corps of Royal Engineers, which has always been distinguished for the zeal and scientific acquirements of many of its Members, has spontaneously offered to conduct the requisite observations, in whatever quarter of the globe they may be stationed; the Astronomer Royal has determined the species of observations to be made, and the character and construction of the instruments to be used; and the Lords of the Treasury have placed at the disposal of the Royal Society the requisite funds for their purchase. I have felt it my duty, Gentlemen, to bring these circumstances under your notice, not merely as forming an important part of the proceedings of the Council of the Royal Society during the last year, but as an encouraging and instructive example of the facility with which extensive co-operation and assistance may be obtained in the execution of any scientific object, however extensive it may be, when the practical means for performing it are distinctly and clearly defined.

It is with real concern that I venture to call your attention to a letter which has been recently published, on the subject of the new Catalogue of the Library of the Royal Society, which I somewhat prematurely announced, when I last had the honour of addressing you, as preparing for publication, and as likely very shortly to appear. I was perfectly aware, when I made that announcement to you, of the nature of the correspondence which had passed between Mr. Panizzi and the Council relating to this Catalogue; but I had

no suspicion that the very brief allusion which I made to this subject, or the incidental mention of Mr. Panizzi's name, which I made in no offensive or disrespectful sense, would have been considered sufficient ground for its publication. It is not my intention to make any observations on the particular allegations which are made against the Council, both collectively and individually, in Mr. Panizzi's letter, which will be more properly noticed in a short statement, which has been drawn up, in deference to your good opinion, by the Council, and which will be read to you by Dr. Roget*; but I think it my duty to state to you, that I was not only cognisant of the whole course of the proceedings of the Council at the time when they took place, but that I perfectly concurred in their propriety; and I beg leave further to assure you, that a careful perusal of Mr. Panizzi's correspondence with the Council, of his comments upon their resolutions and of his imputations upon their conduct, has in no respect tended to modify the opinion which I originally formed, or to induce me to withdraw from the full share of responsibility which I incur, in connection with these proceedings, in common with every other Member of the Council.

Before I conclude this portion of my address, I feel it to be my duty to notice the retirement of Mr. Children and Mr. König from the offices which they have so long and so ably filled. The increasing duties, which have been imposed upon them by recent regulations at the British Museum, have been deemed by them in some degree incompatible with those which they owe to the Royal Society; and they have determined therefore, with a promptitude and delicacy of feeling which does them honour, to retire from their official connexion with us. It is quite unnecessary for me to enlarge upon the merits of two gentlemen who are so well known to you by their labours in your service, by the courtesy of their manners and by the extent and variety of their acquirements; but I should do injustice to my own feelings if I did not express, in the strongest terms, my personal obligations to them for their kind attention to my wishes, and for the anxiety which they have always shown that the interests of the Royal Society should not suffer from my occasional inability to attend personally to the discharge of the duties of my office. I am quite sure, Gentlemen, that I do not misinterpret your feelings, when I propose to thank them, in your name and my own, for their long and valuable services.

The Society has lost during the last year twenty-nine Members on the Home, and two on the Foreign List, and I shall now proceed to notice some of the most distinguished names which appear amongst them.

Henry Thomas Colebrooke was the son of Sir George Colebrooke, an eminent Director of the East India Company, under whose auspices he proceeded to India, as a writer, in 1782. Though a severe student in youth, and strongly disposed to follow a learned profession at home, he gave no indications for many years after his

* This statement is given in page 18.

arrival in India of those tastes for severe and abstract studies for which he was afterwards so celebrated; and we consequently find that, whilst resident at Purneah, he devoted much of his time to the wild and animating field-sports of the East, for which he long retained a passionate fondness. He made his first appearance as an author in 1792, in a Treatise on the Agriculture and Commerce of Bengal; and it was about this period that he began, with all the ardour and energy which distinguished his character, the study of the Sanscrit language, chiefly with a view to acquire a knowledge of the *Lilawati* and other Sanscrit treatises on Algebra and Astronomy, which the somewhat extravagant speculations of Bailly and others had begun to bring into notice. He subsequently undertook the translation of the Digest of the Hindu Laws of Contracts and Successions, which had been compiled under the direction of Sir William Jones, a most laborious and difficult task, which he completed in less than two years. It was during his engagement on this work that he was appointed to a judicial situation at Mirzapore, a position singularly suited to his tastes and pursuits, from its vicinity to Benares, the great repository of the ancient treasures of the literature of Hindostan, and the place of residence of its most learned expounders.

In the year 1800 he was removed to Calcutta, and raised to the highest judicial situation in the native courts of India, at the same time that he was made President of the Board of Revenue, Member of the Supreme Council, and Honorary Professor of Sanscrit in the College of Fort William. But the important official duties which he was thus called upon to discharge seem rather to have stimulated, than to have checked, his labours and investigations in oriental literature and oriental science. In the course of a few years there appeared from his pen many profound dissertations in the Asiatic Researches, on the Vedanta System of Philosophy, on Sanscrit and Pracrit Poetry and Grammar, on the Indian Classes, on the Origin and Tenets of the Mahometan Sects, on the Jains, on the Indian and Arabian Division of the Signs of the Zodiac, and on the Notions of the Hindu Astronomers on the Precession of the Equinoxes and the Motions of the Planets; to which must be added the first volume of a very elaborate Sanscrit Grammar, the translation of the *Peostra*, a Sanscrit Dictionary, and two extensive Treatises on the Hindu Law of Inheritance, together with editions of the *Amera Cosha*, a Sanscrit Vocabulary, and of the *Hitopadésá*, or "Salutary Instruction", which had been translated by Mr. Wilkins, and which is more commonly known under the name of the "Fables of Pilpay".

It was some time after Mr. Colebrooke's return to this country that he published, in 1817, a translation of the *Lilawati* and *Vijaganita*, Sanscrit treatises on arithmetic, algebra and mensuration, to which was prefixed a dissertation on the early history of algebra and arithmetic in India, Arabia and Italy, which is equally remarkable for its profound knowledge of Hindu and Arabian literature and its correct views of the relations of oriental and ancient and mo-

dern European science. He was also the first person who maintained, from his own observations on the plains of Hindostan, the superior elevation of the Himalayan mountains above the Andes of America, in opposition to the opinions generally entertained at that period, and which had been sanctioned by the great authority of Humboldt's theory of the range of the curve of perpetual congelation. The complete confirmation which his opinion afterwards received, from accurate barometrical and trigonometrical measurements, was always referred to, in his later years, with particular satisfaction and triumph.

Mr. Colebrooke continued the steady pursuit of his oriental and scientific studies until nearly the close of his life, and even when the progress of his infirmities confined him almost entirely to his bed. He was one of the founders of the Asiatic and Astronomical Societies, and a short time before his death he gave to the library of the India House his incomparable collection of Sanscrit and Asiatic manuscripts, which had been collected at an expense of nearly 10,000*l.*, with the noble view of preserving them for ever from the danger of dispersion by the fluctuating accidents of inheritance.

Mr. Colebrooke was probably, with one single exception, the greatest Sanscrit scholar of his age; and when we take into account his great acquirements in mathematics and philosophy and in almost every branch of literature, combined with the most accurate and severe judgement, and also his great public services in situations of the highest trust and responsibility, we shall not hesitate to pronounce him one of the most illustrious of that extraordinary succession of great men who have adorned the annals of our Indian empire, the deaths of so many of whom it has been my misfortune to record in my recent addresses from this chair.

Dr. John Latham reached the extraordinary age of ninety-seven years, having enjoyed the full possession of his faculties and almost unbroken health until within a few days of his death: he was the father of the Royal and Antiquarian Societies, and it is sixty-seven years since his first paper, on a medical subject, was published in our Transactions. He was the author of many papers on antiquarian subjects; but his favourite study throughout life was natural history, and particularly ornithology. He published, in 1781, his *General Synopsis of Birds*, in six volumes quarto, and afterwards two supplementary volumes. In 1792 he published his *Index Ornithologicus*, a complete system of ornithology, arranged in classes, orders, genera and species, in two volumes quarto. At the age of 82, he commenced his *General History of Birds*, a magnificent work in eleven volumes quarto. He was a man of very systematic habits and most amiable character, the tranquil course of whose long life was neither disturbed by scientific or professional jealousies, nor embittered by the want of those enjoyments which competence and domestic happiness and virtue alone can confer.

Dr. Tiarks was born at Jever in Oldenburg, and came to England in 1810, when he was appointed Assistant-Librarian to Sir Joseph Banks, through whose influence he was nominated Astronomer to the Commission for settling the North American Boundary, under

the authority of the Treaty of Ghent. After his return to England, in 1822, he was commissioned by the Admiralty, at the request of the Board of Longitude, to ascertain, by means of a great number of chronometers, the difference of the longitudes of Falmouth and Madeira, and subsequently of Falmouth and Dover, the results of which were detailed in a very able paper in our Transactions for 1824, in which he pointed out and explained the origin of an error of nearly 4" of time in the longitudes of all the stations of the Trigonometrical Survey. He was afterwards sent on a similar mission to Heligoland and various stations in the North Seas, and on the last occasion he was accompanied by Sir Humphry Davy, who wished to try the effect of his protectors on the corrosion of the copper sheathing of ships. In 1825 he was recalled from Germany to resume his astronomical surveys in America, where he was employed to ascertain the position and extent of the north-western boundary of the Lake of the Woods, an operation in the execution of which both he and the party who assisted him suffered the greatest hardships and privations. He published various reports of his surveys, and was necessarily much employed and consulted in the difficult and embarrassing negotiations which have attended, and unhappily still attend, the settlement of the important question of the North American boundaries. Dr. Tiarks died in the forty-eighth year of age, at his native place, in consequence of a fever which attacked a constitution already shattered and broken by the severe labours and privations which he had endured. He was a mathematician of no inconsiderable attainments, a very careful and efficient practical astronomer, and admirably qualified for the very important and responsible duties which he was appointed to discharge.

Dr. Edward Turner was a native of Jamaica, and studied medicine at Edinburgh, and chemistry at Göttingen under the instructions of the celebrated analytic chemist Strömeyer. He became a lecturer on chemistry at Edinburgh in 1824, and his first publication was a short introduction to the study of the laws of chemical combination and the atomic theory. He obtained the Professorship of Chemistry in the London University at its first establishment in 1828, a situation which he continued to hold to the end of his life. His *Elements of Chemistry* have enjoyed an uncommon degree of popularity, and are remarkable for clearness and precision both in the description of his experiments and in the deduction of his theory. He was the author of two papers in our Transactions; the first "On the Composition of the Chloride of Barium," and the second containing "Researches on Atomic Weights," both written with a view of impugning the theory which had been promulgated by some English chemists of high authority, "that all atomic weights are simple multiples of that of hydrogen." In the year 1835 Dr. Turner was compelled by the declining state of his health to suspend all original researches, confining himself simply to the duties of his professorship, and he died in February last, in the fortieth year of his age, to the deep regret of every friend of the progress of chemi-

cal science. He was a person of most engaging manners and appearance and of most amiable character; and his body was followed to the grave, with every manifestation of respect and affectionate attachment, by the whole body of the pupils and professors of the institution of which he had so long been a principal ornament.

Dr. William Ritchie was originally Rector of the Royal Academy of Tain in Inverness-shire, where he contrived, by extreme frugality, to save a sufficient sum from his very small annual stipend to attend a course of the lectures of Thenard, Gay-Lussac, and Biot at Paris, and also to provide a substitute for the performance of his duties during his temporary absence from Scotland. His skill and originality in devising and performing experiments with the most simple materials, in illustration of various disputed points of natural philosophy, attracted the attention of the distinguished philosophers whose occasional pupil he had become: he had also communicated, through Sir John Herschel, who took a strong interest in his fortunes, to the Royal Society, papers "On a new Photometer," "On a new form of the Differential Thermometer," and "On the Permeability of transparent Screens of extreme tenuity by Radiant Heat," which led to his appointment, through the recommendation of Major Sabine, to the Professorship of Natural Philosophy at the Royal Institution, where he delivered a course of probationary lectures in the spring of 1829: he became, from this time, a permanent resident in London, and was appointed to the Professorship of Natural Philosophy at the London University in 1832. He subsequently communicated to the Royal Society, papers "On the Elasticity of Threads of Glass, and the application of this property to Torsion Balances;" and also various experimental researches on the electric and chemical theories of galvanism, on electro-magnetism and voltaic electricity, which are more remarkable for the practical ingenuity manifested in the contrivance and execution of the experiments, than for the influence of the views which they display on the progress of their theory, which was so fully and so happily developed by the cotemporary labours of another illustrious chemist and philosopher. Dr. Ritchie was subsequently engaged in experiments, on an extensive scale, on the manufacture of glass for optical purposes, for the examination of the results of which a Commission was appointed by the Government, with a view to their further prosecution by a public grant of money, or by affording increased facilities of experiment by a relaxation of the regulations of the Excise. A telescope of 8 inches aperture was made by Mr. Dollond from Dr. Ritchie's glass, at the recommendation of this commission; but it is generally understood that its performance was not so satisfactory as to sanction a further expenditure in the extension of these experiments. Dr. Ritchie died in the autumn of the present year, of a fever caught in Scotland; and though the traces of an imperfect and irregular education are but too manifest in most of his theoretical researches, yet he must always be regarded as an experimenter of great ingenuity and merit, and as a remarkable example of the acquisition of a very extensive knowledge of philosophy under difficulties and privations

which would have arrested the progress of any person of less ardour and determination of character.

Mr. Joseph Sabine was educated in the University of Dublin, and devoted himself, from a very early period of life, to the study of botany, ornithology, and other branches of natural history, to the neglect of those professional studies which his friends designed him to pursue. One of his earliest labours was the formation of a collection of British birds of almost unrivalled extent and completeness. He became secretary to the Horticultural Society at the period of its first establishment; and though his connection with it was afterwards very abruptly and perhaps very harshly terminated, he must always be considered as the chief author of its successful and complete development. To the Horticultural Transactions he contributed 64 papers, the most important of which are those on the genera *Crocus*, *Dahlia*, and *Chrysanthemum*; and he was also required to re-write the greatest part of the communications which were addressed to the Society by gardeners and practical men, which were rarely sent in a fit state for publication, but which frequently embodied very important information on the various processes of horticulture.

Mr. Sabine was likewise an active and valuable member of the Zoological Society, whose gardens are chiefly indebted to his taste and knowledge for the introduction and systematic arrangement of those splendid flowers and shrubs which have added so greatly to their beauty and interest.

Mr. Sabine held, for the greatest part of his life, the situation of Inspector-General of Taxes, and was called upon by his official duties to make periodical visits to almost every part of the kingdom; he never omitted any opportunity which his various journeys afforded him, of acquiring or of communicating practical knowledge of horticulture and of botany; and few persons have contributed so much, by their personal exertions, to add to the decorations of the cottage and the park, to increase and improve the produce of our gardens, and thus greatly to extend the sphere of the innocent enjoyments and luxuries of all classes of society.

The Rev. Dr. Joseph Hallett Batten was a native of Penzance in Cornwall, and was elected a Fellow of Trinity College, Cambridge, in 1801, after attaining very high academical honours. He was appointed Classical Professor at the East India College at Haylebury at the period of its first establishment, and became Principal of the college upon the retirement of Dr. Henley, a situation which he continued to retain until within a month of his death. He was a man of cultivated taste and of very extensive attainments, both in theology and general literature; and in every way worthy, by his intellectual powers and character, of presiding over an establishment which has been so justly distinguished by the very eminent men who have been, and now are, connected with it.

Dr. John Johnstone was the sixth son of the celebrated Dr. James Johnstone of Worcester, and received his education at Merton College, Oxford. He was for upwards of forty years a very distin-

guished physician at Birmingham and its neighbourhood, and made his first appearance as an author in a defence of his father's claim to the first discovery of the disinfecting powers of muriatic acid gas, which had been claimed by Dr. Carmichael Smyth. Though earnestly attached to the study and practice of his profession, he retained throughout life a fondness for classical literature, and lived on the most intimate terms with some of the most distinguished scholars of the age, including amongst their number the justly celebrated Dr. Parr, whose life and voluminous correspondence he published, a work full of interesting literary anecdote and classical research; and his Harveian oration, pronounced in 1819, and which has been recently published, with a short memoir of his life, by his friend the Bishop of Lichfield, is a model of spirited and correct Latinity. Dr. Johnstone was a man of very warm affections and of great independence of character, and he was universally respected in the great manufacturing city in which he resided, for his great professional skill and services, and for the active support which he gave to every benevolent and useful institution.

Sir John Soane received his early architectural education under Mr. Dance and Mr. D. Holland, and was afterwards sent, by the especial bounty of King George the Third, as a student of the Royal Academy, to pursue his professional studies at Rome. After his return he gradually obtained extensive employment, both as an architect and a surveyor, and finally succeeded in securing almost every important and honourable appointment which is connected with the exercise of his profession in this country. In later life, when in possession of an ample fortune and public honours, he became a most munificent patron of public institutions, and more particularly of those which are connected with the advancement of the fine arts; and in 1835 he bequeathed his house in Lincoln's Inn Fields, and the magnificent collection of works of art which it contained, to the nation, and secured the accomplishment of this noble project by an Act of Parliament; he continued to pursue his usual course of public munificence until his death, which took place on the 20th of January last, in the 84th year of his age.

Sir John Soane was profoundly acquainted with the great principles of his art, and many of the interiors as well as exteriors of his buildings are remarkable for skilful construction and for rich and harmonious effects; but he was unfortunately disposed, in some cases, to seek for novelty rather in new forms and decorations of architectural members, than for originality in the combination of those which have been sanctioned by the concurrent voice of the most cultivated of ancient nations and the greatest masters of modern art; it is for this reason that many of his works appear somewhat capricious and extravagant, and fail to produce that undefinable feeling of pleasure and satisfaction which always attends the contemplation of those great productions of architecture which have been celebrated for correct proportions, or for beautiful and appropriate decoration.

In connexion with this distinguished professor and patron of art,

I feel myself called upon to allude to the name of the venerable Earl of Egremont, whose very recent loss we have to deplore. He was a nobleman distinguished by his active yet discriminating benevolence, and by his princely use of a princely fortune; but it is as a judge and patron of art that his loss will be most severely felt beyond the precincts of his own family and the numerous poor who were the immediate partakers of his bounty. He was equally judicious in the selection of subjects for artists to execute, and liberal in rewarding them when done.

Mr. J. D. Broughton, Surgeon of the Life Guards, had served with great distinction as a medical officer during a great part of the Peninsular war and at Waterloo. He was an eminent physiologist, and devoted a great portion of his time and attention to the study and improvement of the science of medical jurisprudence, and more particularly to experiments on the effects of poisons, and to the best and most unerring tests for detecting their presence after death. His death, which followed a serious operation, rendered necessary by a long-neglected accident, was deeply lamented by a large circle of friends, by whom he was equally respected and beloved for his great professional talents and for his honourable character.

Mr. John Davidson, the last known victim to the cause of African discovery, was formerly a partner in the house of Messrs. Savory and Moore, the well-known chemists, but was induced to quit it in 1826, partly with a view to gratify his passion for foreign travel, and partly from other causes. He afterwards visited North and South America, India, Palestine, Turkey, Greece, Italy, Germany, and France; and the lectures which he gave at the Royal Institution and elsewhere, after his return, on the pyramids of Memphis and Mexico, on Thebes and the temples of Egypt and Jerusalem, afforded a sufficient proof both of his activity and of his accurate observation. The spirit of enterprise and travels, when once excited, is not easily allayed, and Mr. Davidson devoted himself, almost from the period of his return to this country, to a course of preparation for a journey to Timbuctoo, which had already proved fatal to so many adventurers. He was accompanied on this journey by Abu-Bekr, an enfranchised African slave, who had been a prince in his own country when young, and was well acquainted with the Arabic language. He had penetrated from Wadnoon to within twenty-five days' journey of Timbuctoo, when he was murdered by the El Hareb tribe, who were suspected to have been hired for that purpose by Moorish merchants, who, from not being able to understand or conceive the real motives of such an undertaking, conceived that its success would be injurious to their interests. Mr. Davidson was a man of great activity and strength, in the full vigour of life and health, and able to endure the severest labours and privations; but personal accomplishments the most calculated to secure success in ordinary attempts of this nature, serve only to augment the suspicion and to stimulate the cruelty of those savage tribes, who tyrannize over these inhospitable and almost impenetrable regions, and who are described by his companion, Abu-Bekr, "as

full of envy at a stranger's goods; they lie in wait to plunder him of every thing, as a lion lieth in wait for the cattle; they have no mercy on the stranger; even if a stranger were to strip off his skin and to give it to them, they would seize upon it."

The only Foreign Members whom the Society has lost during the last year are Dr. Adam Afzelius, of Upsala, and Professor Morichini, of Rome.

Dr. Adam Afzelius was born at Larg in West Gothland in 1750, and was one of the last surviving pupils of Linnæus. In 1777 he was appointed Reader of Oriental Literature and in 1785 Demonstrator of Botany in the University of Upsala, and he made his first appearance as an author by the publication of a short supplement to the *Flora Suecica* of his master, in the Transactions of the Academy of Stockholm for 1787. In the years 1792 and 1794, he made botanical expeditions to Guinea and Sierra Leone, and a considerable part of the collections which he formed in those countries passed subsequently into the herbariums of Sir Joseph Banks and Sir James Edward Smith. In 1797 he was made Secretary of Legation to the Swedish Embassy in this country, and in the following year he was elected a Foreign Member of the Royal Society on the ground of his great knowledge of botany and zoology. Upon his return to his own country, he became Professor of Materia Medica and Diætetics, at Upsala, situations which he retained for the remainder of his life. He was the author of a learned paper in the Linnean Transactions for 1791 on the genus *Trifolium*, and also of two works entitled *Remedia Guinensia* and *Stirpium in Guinea medicinalium species*: he edited likewise the botanical Correspondence of Linnæus. He was a botanist of great learning and acquirements, and highly esteemed by the leading founders of the Linnean Society; but I am unable to connect his name with any considerable advancement in natural knowledge.

Professor Morichini, of Rome, was elected a Foreign Member of the Royal Society in 1827, and is chiefly known for his experiment on the magnetizing influence of the violet rays in the solar spectrum. His experiment was repeated by Configliachi at Pavia, and by Berard at Montpellier, without success, and in consequence doubts were expressed of the accuracy of his results, which appeared to be finally removed by the successful repetition of it by our justly celebrated countrywoman Mrs. Somerville, in the summer of 1825. I am not aware however that any other philosopher has succeeded in a similar attempt.

Statement of the Council relative to Mr. Panizzi's Pamphlet.

In the pamphlet recently published by Mr. Panizzi, entitled "A Letter to His Royal Highness the President of the Royal Society, on the New Catalogue of the Library of that Institution now in the press," all the charges brought forward against the Council are founded on the most unwarranted and erroneous assumptions.